CLAIMS

1. A method for routing calls in a telecommunication system, the method comprising:

    detecting data for a call from a calling party to a called party; and

    routing the call in accordance with information about the calling party and the called party.

2. The method of claim 1 further comprising:

    providing a call routing message to the calling party customized for the calling party based at least in part on the information about the calling party.

3. The method of claim 1 further comprising:

    providing a menu of call routing options to the calling party customized for the calling party based at least in part on the information about the calling party.

4. The method of claim 1 further comprising:

    determining if the called party is a subscriber to a call routing service;

    retrieving a subscriber profile for the subscriber; and

    providing a call routing message to the calling party customized for the calling party based on the information about the calling party and the subscriber profile.

5. The method of claim 1 further comprising:

    determining if the called party is a subscriber to a call routing service;

    retrieving a subscriber profile for the subscriber; and

providing a menu of call routing options to the calling party
customized for the calling party based on the information
about the calling party and subscriber profile.

6.   The method of claim 1 further comprising:
determining calling line identification information for the calling party;
and
providing a menu of call routing options to the calling party
customized for the calling party based at least in part on the
calling line identification information.

7.   The method of claim 6 further comprising:
retrieving a stored subscriber profile associated with the called
party;
identifying possible call routing options; and
providing a menu of call routing options, the options selected from a group
of options based on the calling line information and the retrieved
subscriber profile.

8.   The method of claim 7 further comprising:
based on the retrieved subscriber profile, identifying a call group
with which the calling line information is associated;
providing the menu of call routing options customized for the
calling party based on the call group.

9.   A telecommunication system comprising:
a network element configured for processing a call between a calling party
and a called party; and
computer readable program code stored at the network element and
including
first code to obtain a subscriber profile for the called party;

second code to determine information about the calling party;

third code to format a menu of call routing options customized for the calling party based on the subscriber profile and the information about the calling party.

10. A method for routing calls in a telecommunication system, the method comprising:

receiving a call from a calling party for a called party;

detecting a terminating number associated with the call;

based on the terminating number, retrieving a stored subscriber profile;

based on the stored subscriber profile, playing a subscriber-defined announcement of call routing options;

detecting a menu selection of the calling party; and

based on the menu selection and the subscriber profile, routing the call.

11. The method of claim 10 further comprising:

determining if the called party is a subscriber to a call routing service.

12. The method of claim 11 further comprising:

if the called party is a subscriber, routing the received call to designated network equipment for processing.

13. The method of claim 12 wherein routing the received call comprises routing the received call to one of a service node and an intelligent peripheral of the telecommunication system.

14.   The method of claim 12 wherein playing a subscriber-defined announcement comprises:

playing a standard announcement selected by the subscriber.

15.   The method of claim 12 wherein playing a subscriber-defined announcement comprises:

playing a recorded announcement recorded by the subscriber.

16.   The method of claim 12 wherein playing a subscriber-defined announcement comprises:

retrieving subscriber-defined message data; and

converting the message data to an audible announcement.

17.   The method of claim 12 wherein detecting a menu selection of the calling party comprises:

detecting dual tone, multiple frequency input of the calling party.

18.   The method of claim 12 wherein detecting a menu selection of the calling party comprises:

detecting personal identification number data entered by the calling party;

comparing the personal identification number data with subscriber-stored data of the subscriber profile;

routing the call according to the subscriber profile.

19.   A telecommunication system comprising:

a network element configured to process a call from a calling party, the call having an associated terminating number;

first code to retrieve a subscriber profile of the calling party based on the terminating number;

second code to play a subscriber-defined announcement of call
routing options;

third code to detect a menu selection of the calling party; and

fourth code to communicate call routing information from the
network element to call routing equipment of the
telecommunication system.

20.   The telecommunication system of claim 19 wherein the network element comprises a service node.

21.   The telecommunication system of claim 19 wherein the network element comprises an intelligent peripheral.

22.   The telecommunication system of claim 19 further comprising:
an originating Service Switching Point; and
a terminating Signal Switching Point
in data communication with the network element.

23.   The telecommunication system of claim 21 further comprising a Service Control Point in data communication with the originating Service Switching Point, the terminating Signal Switching Point and the network element to communicate call routing information in the telecommunication system.

24.   A call routing method in an Advanced Intelligent Network (AIN), the method including:
at an originating switch, receiving a call from a calling
communication station for a directory number (DN);
communicating data about the call to a Service Control Point (SCP)
of the AIN;
retrieving subscriber routing information associated with the DN;

in response to the subscriber routing information, initiating an

interactive communication between an Intelligent Peripheral

(IP) of the AIN and the calling communication station;

communicating information about call routing data received from

5   the calling communication station from the IP to the SCP;

and

in response to the information, routing the call from the originating

switch to a terminating switch.

10   25.   The call routing method of claim 24 further comprising:

communicating between the SCP and the IP according to GR1129

protocol.

26.   The call routing method of claim 25 further comprising:

encrypting at least one of data and instructions in a message of the

15   GR1129 protocol; and

decrypting the message to extract the at least one of data and

instructions.

20   27.   The call routing method of claim 26 further comprising:

at the SCP, encrypting information about call routing options in a

first message;

at the IP, decrypting the first message to extract the information

about the call routing options; and

25   using the information about the call routing options, communicating

call routing option data from the IP to the calling

communication station.

28.   The call routing method of claim 26 further comprising:

30   at the IP, encrypting the information about the call routing data in a

second message; and

at the SCP, decrypting the second message to extract the information about the call routing data.

29.   A call routing method in an Advanced Intelligent Network (AIN), the method including:

receiving a call from a calling party for a called party at an originating switch;

in response to a trigger on the call, sending data about the call from the originating switch to Service Control Point (SCP) of the AIN;

at the SCP, retrieving call routing option data associated with the called party;

in response to the call routing option data, activating an Intelligent Peripheral (IP) of the AIN to provide one or more menu options and receive one or more menu choices from the calling party;

providing information about the one or more menu choices from the IP to the SCP; and

in response to the information, routing the call from the originating switch to a terminating switch of the AIN.

30.   The call routing method of claim 29 wherein activating the IP to provide one or more menu options comprises at least one of:

playing an audible announcement to the calling party from the IP;

converting text to speech data to an audible announcement from the IP; and

playing a called party pre-recorded announcement to the calling party from the IP.

31.   The call routing method of claim 29 wherein activating the IP to receive one or more menu choices comprises at least one of:

detecting a keypad entry menu selection at the IP; and

detecting audible speech of the calling party at the IP.

32.   The call routing method of claim 29 further comprising:

communicating between the IP and the SCP in accordance with

GR1129 protocol.

33.   The call routing method of claim 32 further comprising:

at the SCP, encrypting a plurality of command instructions for the

IP in a GR1129 message; and

at the IP, decrypting the plurality of command instructions from the

GR1129 message.

34.   The call routing method of claim 32 wherein encrypting the

plurality of command instructions comprises:

formatting the GR1129 message with code data indicative of the

plurality of command messages for retrieval at the IP.

35.   The call routing method of claim 34 wherein decrypting the

plurality of command instructions comprises:

receiving the code data; and

using the code data to retrieve data and instructions from a memory

of the IP.

36.   The call routing method of claim 29 further comprising:

storing call routing information for the call at the SCP.

37.   An Advanced Intelligent Network comprising:

an originating switch configured to communicate information about

a received call intended for a dialed Directory Number (DN);

a service node/intelligent peripheral (SN/IP) configured to provide

call routing menu options to the originating switch and

collect call routing menu choices from the originating

switch;

a Service Control Point (SCP) in data communication with the

originating switch and the SN/IP according to GR1129

protocol, the SCP configured to receive the information

about the received call, retrieve stored subscriber routing

information associated with the DN in response to the

information and to use the SN/IP as a call routing

information resource, the SCP further configured to route the

call to a terminating switch in accordance with the subscriber

routing information and information from the SN/IP about

one or more call menu routing choices.

38.   The Advanced Intelligent Network of claim 37 wherein the SCP comprises data storage means for storing the subscriber routing information.

39.   The Advanced Intelligent Network of claim 37 wherein the SCP is further configured to communicate information about the call routing menu options to the SN/IP based on the subscriber routing information.

40.   A data communication method for an Advanced Intelligent Network, the method comprising:

receiving a GR1129 message containing a selected code;

using the selected code, retrieving at least one of data and program

instructions from storage; and

executing using the retrieved at least one of data and program

instructions.

41.   An Advanced Intelligent Network comprising:

a first network element;

a second network element in communication with the first network
element using GR1129 protocol; and

a program code stored at the second network element and selectable
in response to a code included in a GR1129 message.

42. The Advanced Intelligent Network of claim 41 wherein the second
network element comprises:

a memory; and

a processor configured to execute instructions stored in the memory
including the program code upon receipt of the code.

43. The Advanced Intelligent Network of claim 42 wherein the memory
comprises:

a table indexed by the code.

44. A call routing method comprising:

receiving a call at a designated directory number (DN);

providing an audible menu of call routing choices specified by a call
routing service subscriber;

receiving a menu choice designating one of the call routing choices;
and

routing the call to a destination associated with the one of the call
routing choices.

45. The call routing method of claim 44 wherein providing the audible
menu comprises:

providing a verbal call destination without providing the DN
associated with the call routing choice.

46.   The call routing method of claim 45 wherein receiving the menu choice comprises:

detecting dual tone multiple frequency tones indicative of the menu

choice.

47.   A method for establishing call routing information from a subscriber to a call routing service, the method comprising:

providing a World Wide Web display including data entry slots
configured to receive verbal call destination indicators and
corresponding telephone numbers;

receiving a data transmission containing data related to the verbal
call designation indicators and the corresponding telephone
numbers; and

storing the data for subsequent access.

48.   The method of claim 47 wherein receiving the data transmission comprises receiving one or more TCP/IP packets from the subscriber over the Internet.

49.   The method of claim 47 wherein receiving the data transmission comprises receiving a subscription number associated wit the subscriber.

50.   A user interface for updating subscriber specific call routing menu choices, the user interface comprising:

one or more call termination option fields;

one or more telephone number fields, each telephone number field
corresponding to a call destination option; and

a select button.

51.   The user interface of claim 50 further comprising:

clickable call termination buttons.

52.   The user interface of claim 50 further comprising:

clickable call destination buttons; and

clickable called party buttons.

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53.   A call routing method in a telecommunication network, the method comprising:

receiving a call from a caller, the call including a subscriber
      identifier;

10   identifying a service subscriber associated with the subscriber
      identifier;

retrieving a subscriber profile of the service subscriber including a
      list of call routing options and a subscriber-specific message
      for playback to the caller;

15   playing the subscriber-specific message to the caller;

receiving a caller routing indication from the caller; and

routing the call to a terminating Directory Number (DN) associated
      with the call routing indication.

20   54.   The method of claim 53 wherein retrieving the subscriber profile comprises:

retrieving a subscriber-specified list of terminating DN options;

retrieving a list of verbal descriptions, each verbal description of the
      list being associated with a terminating DN option of the list

25   of terminating DN options; and

assigning a menu choice indicator to each terminating DN option
      and verbal description combination.

55.   The method of claim 53 wherein receiving the call comprises:

30   detecting a toll free DN associated with the service subscriber.

56. The method of claim 54 wherein routing the call includes routing the call from the first telecommunication network to the second telecommunication network.

57. The method of claim 56 wherein the first telecommunication network comprises a landline telephone system and the second telecommunication network comprises a radiotelephone network. *Brennan*

58. A call routing method comprising:

receiving a call from a caller for a service subscriber;

routing the call to a directory number (DN) associated with the service subscriber;

if the call is not answered at the DN, offering the caller additional call routing options; and

upon selection of an additional call routing option by the caller, charging the caller a fee and routing the call in accordance with the selected options.

59. The method of claim 58 further comprising:

if the call is not answered at the DN,

retrieving a subscriber profile, and

playing a voice mail option message based on the subscriber profile.

60. The method of claim 59 further comprising:

playing a message offering the caller additional call routing options in accordance with the subscriber profile; and

receiving caller input,

routing the call according to the caller input and the subscriber profile.

61.   The method of claim 60 further comprising:

offering a sequential contact option and a simultaneous contact

option;

receiving a caller input;

if the simultaneous contact option is selected, routing the call

simultaneously to a plurality of directory numbers as

specified by the subscriber profile;

if the sequential contact option is selected, offering an option to

specify a contact sequence;

receiving a contact sequence from the caller;

routing the call sequentially in accordance with the received contact

sequence and the subscriber profile.

62.   A telecommunication system comprising:

call processing equipment;

a platform in communication with the call processing equipment,

the platform storing data defining a subscriber profile for

menu-based call routing, the data comprising:

a landline directory number;

a voice mailbox identifier;

a radiotelephone directory number;

a facsimile directory number;

a preferred group of directory numbers for simultaneous

ringing during menu-based call routing; and

a preferred sequence of directory numbers for sequential

ringing during menu-based call routing.

63.   A telecommunication system comprising:

a Service Control Point (SCP) which routes calls in the

telecommunication system, the SCP including

a SCP database storing call routing information and
subscriber profile information, and
service logic to control call routing in the telecommunication
system; and
a service node in communication with the SCP and responsive to
command data received from the service logic for interaction
during a call with a caller to provide to the caller a menu of
call routing options based on the subscriber profile, receive a
call routing selection from the caller and return call routing
selection data to the SCP for routing of the call by the SCP
based on the call routing selection.

64.   The telecommunication system of claim 63 further comprising:
an Internet access portal in data communication with the SCP
database for remote access and updating of the subscriber
profile by a subscriber.

65.   The telecommunication system of claim 63 wherein the SCP and the
service node are configured for communication according GR1129 protocol.

66.   A telecommunication system comprising:
a Service Control Point (SCP) including
a SCP database storing call routing information, and
service logic to control call routing in the telecommunication
system and identify a service subscriber; and
a service node (SN) in communication with the SCP, the SN
including
a SN database to store a subscriber profile, and
SN service logic responsive to a command issued from the
SCP upon identification of a service subscriber for
interaction during a call with a caller to provide to the

caller a menu of call routing options based on the subscriber profile, receive a call routing selection from the caller, the service logic being configured to route the call based on the call routing selection.

67.   The telecommunication system of claim 66 further comprising:

an Internet access portal in data communication with the SN database for remote access and updating of the subscriber profile by a service subscriber.